

Attorney Docket No. 7700 D1

REMARKS

Applicants have amended claim 1. No new matter has been added.

Rejections under 35 U.S.C. §103(a)**a. Claim 1**

Claims 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Loippo (6,485,610) in view of Neal (6,048,938). More specifically, the Examiner states the following: “[i]t would have been obvious, to one of ordinary skilled in the art at the time the invention was made, to combine the teachings of Loippo and Neal because such a combination would expand the market of Loippo to include creped products.”

Applicants respectfully traverse the Examiner’s rejection.

Loippo discloses both an apparatus and a method for treating a paper web in a paper or cardboard machine, which involves the introduction of a flow of gas onto a paper web. In particular, the apparatus must comprise “a means for manipulating the state of the gas, especially air, to be dispensed, its temperature and humidity, before the delivery of the gas. For the operation of a paper machine, it is essential that the gas dispensed does not contain any water in the form of drops because water sprayed onto the web would produce holes in the paper as well as the web breaks.” (Column 4, lines 44-50). The “gas dispensing/spreading element of the invention may consist of several separate dispensing sections, e.g. several parallel pipelines comprising different nozzles and/or adjustable or nonadjustable nozzle elements or the like for controlling gas flow.” (Column 4, lines 38-43). With respect to the positioning of the gas dispensing/spreading element, Loippo teaches that “[i]n addition to the press section of the paper machine, a corresponding gas/spreading element may be placed e.g. in the wire section, in the drying section, on the reeler, at the coating and sizing head.” (Column 3, lines 38-42).

Neal et al. teaches a process for producing creped paper products via the addition of creping aids/chemicals. Neal further teaches that the creping aids are generally applied to the surface of a Yankee Dryer, the surface of a fibrous structure, the surface of the fibrous structure that contacts a drying surface, the forming section of the paper machine such as to the forming fabric that directly contacts the drying surface, and the pre-drying section to the foraminous press fabric. (Col. 7, lines 25-58). With respect to applying creping aids to the Yankee Dryer, Neal

Attorney Docket No. 7700 D1

teaches that the creping aids are applied via "a creping aid spray boom shower that is juxtaposed with the Yankee Dryer." (Col. 7, lines 33-35).

Claim 1 pertains to a method for targeted application of non-gaseous Performance Enhancing Materials to a creping cylinder comprising the steps of: a) providing a tissue making operation wherein a rotating creping cylinder is used to dry a wet mat of fibrous material wherein said mat of fibrous material is contacted with a doctor blade that crepes the fibrous mat as it leaves the creping cylinder; b) dividing said creping cylinder into a plurality of Zones, wherein each Zone has a performance requirement and operating temperature range that is different than the adjacent Zone; c) providing means for targeted application of one or more desired Performance Enhancing Materials to each Zone of said creping cylinder; and d) applying one or more Performance Enhancing Materials to at least two Zones of said creping cylinder, wherein the Performance Enhancing Material applied to each Zone is selected based on the performance requirement and operating temperature range of each Zone of said creping cylinder.

A rejection based upon 35 U.S.C. §103(a) requires that prior art cited the Examiner teach or suggest all elements of the claimed invention. Applicants respectfully traverse the Examiner's rejection because neither reference teaches nor suggests providing a means for targeted application of one or more desired non-gaseous Performance Enhancing Materials to each zone of the creping cylinder.

In view of the foregoing, Applicants request that the Examiner withdraw the pending rejection of claim 1 and allow the claim.

b. Claims 3-5

Claims 3-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Loippo (6,485,610) in view of Neal (6,048,938). More specifically, the Examiner states the following: "Claims 3-5: method of detecting a performance enhancing material and determination if a correct amount is used by the use of fluorescent [sic] is an obvious maintenance procedure as shown by Flore [sic] (4,176,668)."

Applicants respectfully traverse the Examiner's rejection.

Loippo discloses both an apparatus and a method for treating a paper web in a paper or cardboard machine, which involves the introduction of a flow of gas onto a paper web. In

Attorney Docket No. 7700 D1

particular, the apparatus must comprise "a means for manipulating the state of the gas, especially air, to be dispensed, its temperature and humidity, before the delivery of the gas. For the operation of a paper machine, it is essential that the gas dispensed does not contain any water in the form of drops because water sprayed onto the web would produce holes in the paper as well as the web breaks." (Column 4, lines 44-50). The "gas dispensing/spreading element of the invention may consist of several separate dispensing sections, e.g. several parallel pipelines comprising different nozzles and/or adjustable or nonadjustable nozzle elements or the like for controlling gas flow." (Column 4, lines 38-43). With respect to the positioning of the gas dispensing/spreading element, Loippo teaches that "[i]n addition to the press section of the paper machine, a corresponding gas/spreading element may be placed e.g. in the wire section, in the drying section, on the reeler, at the coating and sizing head." (Column 3, lines 38-42).

Neal et al. teaches a process for producing creped paper products via the addition of creping aids/chemicals. Neal further teaches that the creping aids are generally applied to the surface of a Yankee Dryer, the surface of a fibrous structure, the surface of the fibrous structure that contacts a drying surface, the forming section of the paper machine such as to the forming fabric that directly contacts the drying surface, and the pre-drying section to the foraminous press fabric. (Col. 7, lines 25-58). With respect to applying creping aids to the Yankee Dryer, Neal teaches that the creping aids are applied via "a creping aid spray boom shower that is juxtaposed with the Yankee Dryer." (Col. 7, lines 33-35).

Fiore et al. discloses a method of monitoring the amount of a hydrophobic coating applied to reconstituted tobacco by monitoring a metal cation that is contained within the coating via spectrophotometric means. Fiore describes that the "[s]pectrophotometric analysis can be accomplished by any of several methods such as by flame emission and by atomic absorption." (Col. 4, lines 61-63). Fiore further describes an unsuccessful attempt to use an X-ray fluorescent instrument to measure zinc that is added to a reconstituted tobacco. More specifically, reconstituted tobacco to which zinc oxide was added was "analyzed with an X-ray fluorescent instrument and it was found that the instrument was not sensitive enough to pick up such levels of zinc on the tobacco sheet, nor was it able to discriminate from background zinc, i.e. zinc salts naturally occur in tobacco," and "the use of fluorescent tracer techniques which are extremely

Attorney Docket No. 7700 D1

sensitive and often yield detection levels in the order of parts per billion were found to be inapplicable.” (Col. 3, lines 7-11 and 18-21).

Claim 3 pertains to a method to detect whether a Performance Enhancing Material is present on a creping cylinder comprising the steps of: a) adding a known amount of an inert fluorescent tracer to a known amount of a Performance Enhancing Material, with said Performance Enhancing Material being suitable for application to a creping cylinder; b) applying said Performance Enhancing Material to creping cylinder; c) using a fluorometer to measure the fluorescent signal of said inert fluorescent tracer on said creping cylinder; d) using the fluorescent signal of said inert fluorescent tracer to determine the amount of inert fluorescent tracer present on said creping cylinder; e) correlating the amount of inert fluorescent tracer present on said creping cylinder with the amount of Performance Enhancing Material present on said creping cylinder; f) comparing the amount of Performance Enhancing Material present on said creping cylinder with the desired amount of Performance Enhancing Material that is supposed to be present on said creping cylinder; and optionally g) adjusting the amount of Performance Enhancing Material present on said creping cylinder, based on the measured fluorescent signal of said inert fluorescent tracer.

Claim 4 pertains to a method to detect whether a Performance Enhancing Material is present on a creped tissue product comprising the steps of: a) adding a known amount of an inert fluorescent tracer to a known amount of a Performance Enhancing Material, with said Performance Enhancing Material being suitable for application to a creping cylinder; b) applying said Performance Enhancing Material to a creping cylinder; c) using a fluorometer to measure the fluorescent signal of said inert fluorescent tracer on the creped tissue leaving said creping cylinder and repeating this measurement as required in order to determine the pattern of the presence and amount of said Performance Enhancing Material on said creped tissue; d) using the pattern of the presence and amount of said Performance Enhancing Material on said creped tissue to ascertain whether the application of Performance Enhancing Material to said creping cylinder is optimal; and optionally; e) adjusting the amount of Performance Enhancing Material present on said creping cylinder, based on the pattern of the presence and amount of said Performance Enhancing Material on said creped tissue.

Attorney Docket No. 7700 D1

Claim 5 pertains to a method to detect whether the correct amount and type of Performance Enhancing Materials are present on a creping cylinder comprising the steps of: a) adding a known amount of an inert fluorescent tracer to a known amount of a Performance Enhancing Material, with said Performance Enhancing Material being suitable for application to a creping cylinder; b) applying said Performance Enhancing Material to creping cylinder; c) using a fluorometer to measure the fluorescent signal of said inert fluorescent tracer in the collected water removed from the felt; d) using the fluorescent signal of said inert fluorescent tracer to determine the amount of inert fluorescent tracer present in the collected water removed from the felt; e) correlating the amount of inert fluorescent tracer present in said collected water removed from the felt with the amount of Performance Enhancing Material present in said water removed from the felt; f) comparing the amount of Performance Enhancing Material present in the water removed from the felt with the desired amount of Performance Enhancing Material that is supposed to be present on said creping cylinder; and optionally g) adjusting the amount and type of Performance Enhancing Material present on said creping cylinder, based on the measured fluorescent signal of said inert fluorescent tracer found in the water removed from the felt.

A rejection based upon 35 U.S.C. §103(a) requires that prior art cited the Examiner teach or suggest all elements of the claimed invention.

With respect to claim 1, Applicants respectfully traverse the Examiner's rejection because the prior art neither teaches nor suggests the addition of a known amount of fluorescent tracer to a known amount of Performance Enhancing Material, with said Performance Enhancing Material being suitable for application to a creping cylinder, and neither teaches nor suggests using a fluorometer to measure the fluorescent signal of said inert fluorescent tracer present on said creping cylinder.

With respect to claim 4, Applicants respectfully traverse the Examiner's rejection because the prior art neither teaches nor suggests the addition of a known amount of fluorescent tracer to a known amount of Performance Enhancing Material, with said Performance Enhancing Material being suitable for application to a creping cylinder, and neither teaches nor suggests using a fluorometer to measure the fluorescent signal of said inert fluorescent tracer on the creped tissue leaving said creping cylinder and repeating this measurement as required in order to determine

Attorney Docket No. 7700 D1

the pattern of the presence and amount of said Performance Enhancing Material on said creped tissue.

With respect to claim 5, Applicants respectfully traverse the Examiner's rejection because the prior art neither teaches nor suggests the addition of a known amount of fluorescent tracer to a known amount of Performance Enhancing Material, with said Performance Enhancing Material being suitable for application to a creping cylinder, and neither teaches nor suggests using a fluorometer to measure the fluorescent signal of said inert fluorescent tracer in the collected water removed from the felt.

Assuming *arguendo* that all elements of claim 3, 4, and 5 are disclosed by either the teachings of the prior art in general or the cited references, Applicants respectfully assert that that there is no motivation to combine the references because the Fiore patent, which is cited by the Examiner, teaches away from the use of fluorescence in determining the deposition of a chemical added to a papermaking process. More specifically, Fiore teaches that reconstituted tobacco to which zinc oxide was added was "analyzed with an X-ray fluorescent instrument and it was found that the instrument was not sensitive enough to pick up such levels of zinc on the tobacco sheet, nor was it able to discriminate from background zinc, i.e. zinc salts naturally occur in tobacco," and "the use of fluorescent tracer techniques which are extremely sensitive and often yield detection levels in the order of parts per billion were found to be inapplicable." (Col. 3, lines 7-11 and 18-21).

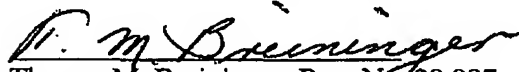
In view of the foregoing, Applicants request that the Examiner withdraw the pending rejections of claims 3-5 and allow the claims.

Attorney Docket No. 7700 D1

CONCLUSION

Applicants submit that based upon the above Amendments and Remarks, all pending claims are in condition for allowance and respectfully request that a Notice of Allowance be sent for all pending claims.

Respectfully Submitted,



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